

APPENDIX 8: Tier I At-Risk Species.

Tier I species are those that are globally or nationally most at-risk of extinction and which occur in Nebraska. This list is used to help prioritize conservation planning and actions and does not have legal or regulatory ramifications. Conservation of these species is needed to prevent future state/federal listings and help existing listed species recover.

The Tier I at-risk species lists will be periodically reviewed and revised by taxon experts. This revision will occur on an on-going basis as new information on abundance, distribution, and population trends becomes available, with an overall review at least every five years.

Species were selected for the Tier I when they met one or more of the following criteria:

State and Federally Listed Species: Species listed as threatened or endangered under the federal Endangered Species Act or the Nebraska Non-game and Endangered Species Conservation Act. Recovery and de-listing of these species is a goal of the plan.

Heritage Ranked Species: Species ranked by NatureServe and the Natural Heritage Network as globally critically imperiled (G1), imperiled (G2), or vulnerable (G3). Or species ranked as either state critically imperiled (S1), imperiled (S2), or vulnerable (S3) in all or nearly all states in their range.

Declining species: Species whose abundance and/or distribution has been declining across much of their entire range. For land birds, the Partners in Flight national watch list was used as a guide.

Endemic Species (or nearly so): Species whose entire range of distribution occurs within or primarily within Nebraska. Conservation actions in Nebraska would be critical to the conservation of the species.

Disjunct Species: Species whose populations in Nebraska are widely disjunct (200 miles +) from the species' main range of distribution. Such populations may contain genetic variations that could be important to the long-term survival of the species. Species must be ranked as critically imperiled (S1) or imperiled (S2) within Nebraska.

Following the list of species is information on each Tier I species. A few of the fields that are not self-explanatory are described below.

G-Rank, S-Rank: Explanation of ranks is found in appendix 4.

Goal: The minimum number of populations to be conserved in Nebraska.

Distribution: The species distribution in Nebraska relative to its entire range. This was a factor used in setting the goal for each species (see Chapter 3).

Endemic: species that only occur within NE or generally have more than 90% of their range within the state.

Limited: species that occur primarily within one region (e.g., Great Plains)

Widespread: species that are common in a number of regions and widespread in NE.

Peripheral: species that are found mainly in other regions, generally less than 10% of the range is within NE.

Threats: Climate Change Vulnerability Index: Climate change vulnerability assessments were conducted for all Tier 1 species using NatureServe's Climate Change Vulnerability Index tool (Young et al. 2010). The assessment evaluates a species' exposure to, sensitivity to, and capacity to adapt to climate change. Vulnerability assessments provide a scientific basis for developing climate adaptation strategies. The assessments were conducted during the taxon experts workshops, using group consensus to rank the criteria for each species. The tool is designed to be used for a specific geographic area (e.g., a state), thus the index score may be incomplete for migratory bird species that spend part of the year outside of the state. However if a species is vulnerable when outside the state, there may be little that conservation actions taken in Nebraska can do to address the vulnerability. Thus, the Index score may be useful for informing conservation in the state.

Landscapes: These are the biologically unique landscapes for which there were known occurrences of populations (or migratory stopover sites) for the species.

Nebraska Natural Legacy Project

Tier 1 At-risk Species

Birds

Baird's Sparrow
 Bell's Vireo
 Brewer's Sparrow
 Buff-breasted Sandpiper
 Burrowing Owl
 Cerulean Warbler
 Chestnut-collared Longspur
 Ferruginous Hawk
 Greater Prairie-Chicken
 Henslow's Sparrow
 Interior Least Tern
 Loggerhead Shrike
 Long-billed Curlew
 McCown's Longspur
 Mountain Plover
 Pinyon Jay
 Piping Plover
 Short-eared Owl
 Sprague's Pipit
 Trumpeter Swan
 Whooping Crane
 Wood Thrush

Fish

Blacknose Shiner
 Blue Sucker
 Finescale Dace
 Lake Sturgeon
 Northern Redbelly Dace
 Pallid Sturgeon
 Plains Topminnow
 Sicklefin Chub
 Sturgeon Chub
 Topeka Shiner

Insects

American Burying Beetle
 Bucholz Black Dash
 Colorado Rita Dotted-Blue
 Ghost Tiger Beetle
 Iowa Skipper
 Married Underwing
 Mottled Duskywing
 Nine-Spotted Ladybird Beetle
 Ottoe Skipper
 Platte River Caddisfly
 Regal Fritillary
 Salt Creek Tiger Beetle
 Tawny Crescent
 Whitney Underwing

Mammals

Bailey's Eastern Woodrat
 Cheyenne Northern Pocket Gopher
 Fringe-Tailed Myotis
 Northern River Otter
 Pierre Northern Pocket Gopher
 Plains Harvest Mouse
 Plains Pocket Mouse
 Rocky Mountain Bighorn Sheep
 Southern Flying Squirrel
 Swift Fox

Mollusks

Flat Floater
 Higgins Eye
 Pimpleback
 Pistolgrip
 Plain Pocketbook
 Scaleshell

Reptiles

Blanding's Turtle
 Massasauga
 Sagebrush Lizard
 Timber Rattlesnake

Plants

American Ginseng
 Barr's Milkvetch
 Blowout Penstemon
 Colorado Butterfly Plant
 Dog-Parsley
 Gordon's Wild Buckwheat
 Hall's Bulrush
 Large-Spike Prairie-Clover
 Matted Prickly-phlox
 Meadow Lousewort
 Missouri Sedge
 Nodding-Pogonia
 Platte River Dodder
 Prairie Moonwort
 Rocky Mountain Bulrush
 Saltwort
 Sandhill Goosefoot
 Short's Milkvetch
 Small White Lady's-Slipper
 Snow Trillium
 Ute Lady's Tresses
 Western Prairie Fringed Orchid
 Wolf's Spikerush

BIRDS

Common Name Baird's Sparrow

Scientific Name *Ammodramus bairdii*

G-Rank G

S-Rank S

Goal

Distribution

Criteria for selection as Tier I

Trends since 2005 in NE Unknown

Range in NE Poorly known, statewide migrant with possible exception of extreme east, emerging information suggests native grasslands of Northern Sioux county may be regular sparrow stop over location

Habitat Probably native grassland during migration but has been observed in non-native habitats

Threats Poorly understood, loss of habitat

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Determine migration status distribution and habitat use; evaluate possible threats

Landscapes Ogallala grasslands?

Common Name Bell's Vireo

Scientific Name *Vireo bellii*

G-Rank G5

S-Rank S4

Goal 4

Distribution Widespread

Criteria for selection as Tier I Declining; PIF watch list

Trends since 2005 in NE Increasing

Range in NE Statewide

Habitat All shrub land types except buck brush; grasslands with shrubs; dependant on shrubs

Threats Encroachment of trees, habitat conversion, fire suppression, cowbirds, shrub spraying

Climate Change Vulnerability Index: Not Vulnerable, Increase likely

Research/Inventory Determine minimum patch size and ratio of shrub to grassland; determine habitat requirements; how to manage with fire control - control cedars but not burn up shrubs; genetics - understand contribution of NE population to species as a whole

Landscapes Central Loess Hills, Cherry County Wetlands, Elkhorn Confluence and River Headwaters, Keya Paha, Loess Canyons, Lower Loup River, Lower Niobrara River, Lower Platte River, Middle Niobrara, Missouri River, North Platte River, Oglala Grasslands, Pine Ridge, Platte Confluence, Ponca Bluffs, Saline Wetlands, Sandhills Alkaline Lakes, Sandsage Prairie, Upper Loup Rivers and Tributaries, Upper Niobrara River, Verdigris-Bazile, Wildcat Hills, Willow Creek Prairies

<u>Common Name</u>	Brewer's Sparrow	<u>Scientific Name</u>	<i>Spizella breweri</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S4
		<u>Goal</u>	1
		<u>Distribution</u>	Peripheral
<u>Criteria for selection as Tier I</u>	Declining; PIF watch list		
<u>Trends since 2005 in NE</u>	Significant decline		
<u>Range in NE</u>	Shortgrass Prairie Ecoregion in the panhandle		
<u>Habitat</u>	Sandsage prairie; short-grass; mixed-grass w/sandsage component; shrub associated species - low shrubs		
<u>Threats</u>	Sage removal (to improve rangeland); land conversion – pivots; habitat fragmentation		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Identify habitat requirements; continue surveys; survey for sage		
<u>Landscapes</u>	Oglala Grasslands, Panhandle Prairies, Upper Niobrara River, Pine Ridge, Sandsage Prairie, Wildcat Hills		

<u>Common Name</u>	Buff-breasted Sandpiper	<u>Scientific Name</u>	<i>Tryngites subruficollis</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S2N
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	Declining; Shorebird Conservation Plan		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Rainwater Basin in East-Central area of state		
<u>Habitat</u>	Cropland associated with palustrine wetlands - open flats; very short stature grasslands; playa wetlands; require mixture of agricultural and wetlands		
<u>Threats</u>	Agricultural practices, contaminants, wind energy development		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Identify food sources; migratory stopover duration; roost sites; what agricultural practices favor them; effects of agricultural practices-contaminants; population trend; effects of wind energy development		
<u>Landscapes</u>	Rainwater Basin (east), Verdigris-Bazile		

<u>Common Name</u>	Burrowing Owl	<u>Scientific Name</u>	<i>Athene cunicularia</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S3
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Ranked as imperiled or vulnerable in nearly all states in its range		
<u>Trends since 2005 in NE</u>	Increasing?		
<u>Range in NE</u>	Western two-thirds of state		
<u>Habitat</u>	Prairie dog towns, Short-grass Prairie, Mixed-grass Prairie, heavily grazed grasslands		
<u>Threats</u>	Prairie dog control; habitat conversion-pivots; loss of short, open grasslands; plague; wind energy development; insecticide impact on food source		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Expand inventory - productivity, cause of population variability - predators, status and trends of prairie dogs; effects of wind energy development; genetics		
<u>Landscapes</u>	Central Loess Hills, Cherry County Wetlands, Dismal River Headwaters, Elkhorn River Headwaters, Keya Paha, Kimball Grasslands, Loess Canyons, Middle Niobrara, North Platte River, Oglala Grasslands, Panhandle Prairies, Rainwater Basin, Sandhills Alkaline Lakes, Sandsage Prairie, Upper Loup Rivers and Tributaries, Upper Niobrara River, Verdigris-Bazile, Wildcat Hills, Willow Creek Prairies		

<u>Common Name</u>	Cerulean Warbler	<u>Scientific Name</u>	<i>Dendroica cerulea</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S2
		<u>Goal</u>	1
		<u>Distribution</u>	Peripheral
<u>Criteria for selection as Tier I</u>	Declining; PIF watch list		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Missouri River bluffs from Thurston to Richardson counties		
<u>Habitat</u>	Deciduous forest with emergents, old forest with little undergrowth, Eastern Riparian Forest, Red Oak-Basswood-Ironwood Forest, Lowland Hackberry Forest, streams where bluff meets floodplain		
<u>Threats</u>	Logging, fragmentation, cowbirds, deer population preventing tree regeneration		
	Climate Change Vulnerability Index: Not Vulnerable, Increase likely		
<u>Research/Inventory</u>	Habitat requirements - particularly in relation to habitat alteration; inventory for breeding birds		
<u>Landscapes</u>	Missouri River, Indian Cave Bluffs, Ponca Bluffs, Thurston-Dakota Bluffs		

Common Name Chestnut-collared Longspur **Scientific Name** *Calcarius ornatus*

G-Rank G5 **S-Rank** S3 **Goal** 7 **Distribution** Limited

Criteria for selection as Tier I PIF watch list

Trend since 2005 Unknown

Range in NE Western and northern portions of the Nebraska Panhandle

Habitat Native short- and mixed-grass prairie. Prefers taller prairie than McCown's Longspur.

Threats Loss of habitat; conversion of habitat to agriculture; degradation because of tree planting or invasive species; lack of grazing.

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Breeds locally; identify additional breeding locations.

Landscapes Panhandle Prairies, Oglala Grasslands, Kimball Grasslands.

Common Name Ferruginous Hawk **Scientific Name** *Buteo regalis*

G-Rank G4 **S-Rank** S2 **Goal** 7 **Distribution** Widespread

Criteria for selection as Tier I Ranked as imperiled or vulnerable in nearly all states in its range

Trends since 2005 in NE Stable

Range in NE Western third of state - primarily panhandle

Habitat Rock Outcrop, Shortgrass Prairie, Sandhills Dune Prairie, prairie dog towns, (may be using rock outcrops less now)

Threats Human activity (agriculture/farming), prairie dog control, habitat fragmentation, wind energy development

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Survey southwest NE, Sandhills, and southern Sioux County, identify range in Sandhills associated with prairie dogs, long range movement, Wind energy development impacts

Landscapes Central Loess Hills, Kimball Grasslands, Oglala Grasslands, Panhandle Prairies, Pine Ridge, Sandsage Prairie South, Upper Niobrara River

<u>Common Name</u>	Greater Prairie-Chicken	<u>Scientific Name</u>	<i>Tympanuchus cupido</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S3S4
		<u>Goal</u>	4
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	Declining; PIF watch list		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Primarily north-central sandhills, scattered eastern three-quarters of state		
<u>Habitat</u>	Sandsage Prairie, Tall-grass Prairie, Sandhills Dry Valley Prairie, Loess Mixed-grass Prairie		
<u>Threats</u>	Habitat conversion and fragmentation; grassland management (loss of forbs); loss of some shrubs; wind energy development; woody species encroachment; loss of CRP in eastern NE		
	Climate Change Vulnerability Index: Not Vulnerable, Increase likely		
<u>Research/Inventory</u>	Continue surveys; effects of wind turbines; habitat use and demographics; understanding contribution of NE population to species as a whole		
<u>Landscapes</u>	Central Loess Hills, Cherry County Wetlands, Dismal River Headwaters, Elkhorn Confluence and River Headwaters, Keya Paha, Loess Canyons, Platte Confluence, Ponca Bluffs, Sandsage Prairie, Sandstone Prairies, Southeast Prairies, Verdigris-Bazile, Willow Creek Prairies		

<u>Common Name</u>	Henslow's Sparrow	<u>Scientific Name</u>	<i>Ammodramus henslowii</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	Declining; PIF watch list		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	SE portion of state		
<u>Habitat</u>	Tall-grass Prairie; Wet-mesic Tall-grass Prairie; will use CRP; prefers large open grasslands		
<u>Threats</u>	Annual burning or haying (lack of litter); habitat conversion; woody species invasion; haying during nesting period; loss of CRP; wind energy development		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Needs inventory, identify prairie size requirements, potential to use patch-burn grazing system to manage for suitable habitat		
<u>Landscapes</u>	Central Platte River, Elkhorn Confluence, Rainwater Basin, Sandstone Prairies, Southeast Prairies		

<u>Common Name</u>	Interior Least Tern	<u>Scientific Name</u>	<i>Sternula antillarum athalassos</i>
<u>G-Rank</u>	G4T2Q	<u>S-Rank</u>	S2
		<u>Goal</u>	10
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State and federally listed, G2		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Platte River east of Lake McConaughy, lower reaches of major rivers north of Platte River		
<u>Habitat</u>	Bare sand bars and sandy shorelines of large rivers, lakes and sand pits, housing developments		
<u>Threats</u>	Loss of natural river flows to maintain bare sandbar and shoreline habitat; flooding of nests; loss of nests to vehicles and human disturbance; hydro-peaking; invasive plant species affecting nesting habitat		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Nesting surveys throughout breeding range in state, evaluate taxonomy, region wide movements		
<u>Landscapes</u>	Central Platte River, Elkhorn Confluence, Lower Loup River, Lower Niobrara River, Lower Platte River, Middle Niobrara, Missouri River, Ponca Bluffs, Upper Loup River and Tributaries, Verdigris-Bazile		

<u>Common Name</u>	Loggerhead Shrike	<u>Scientific Name</u>	<i>Lanius ludovicianus</i>
<u>G-Rank</u>	G	<u>S-Rank</u>	S
		<u>Goal</u>	
		<u>Distribution</u>	
<u>Criteria for selection as Tier I</u>			
<u>Trends since 2005 in NE</u>	Declining		
<u>Range in NE</u>	Statewide, although more common in areas with extensive grasslands		
<u>Habitat</u>	Prairie and grassland with at least some scattered small trees or shrubs		
<u>Threats</u>	Loss of grassland habitats; depletion of food resources (pesticides); organochloride pesticide negatively impacts reproduction		
	Climate Change Vulnerability Index: Not Vulnerable, Increase likely		
<u>Research/Inventory</u>	Determine proximal causes of population declines; determine conservation measures (habitat) that can positively impact species		
<u>Landscapes</u>	Central Loess Hills, Cherry County Wetlands, Dismal River Headwaters, Elkhorn River Headwaters, Keya Paha, Kimball grasslands, Loess Canyons, Ogallala grasslands, Panhandle Prairies, Sandhills Alkaline Lakes, Sandsage Prairie, Sandstone prairies, Southeast prairies		

<u>Common Name</u>	Long-billed Curlew	<u>Scientific Name</u>	<i>Numenius americanus</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S3
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Ranked as imperiled or vulnerable in nearly all states in its range		
<u>Trends since 2005 in NE</u>	Declining		
<u>Range in NE</u>	North-central through panhandle		
<u>Habitat</u>	Sandhills Dune Prairie, Sandhill Valley Prairie with mixed-grass, prairie dog towns, mixed-grass and short-grass prairie in the Panhandle		
<u>Threats</u>	Habitat conversion, pivots, fragmentation, wind energy development		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	More inventory; determine nest success and chick survival, habitat needs, and management impacts, effects of wind energy development		
<u>Landscapes</u>	Cherry County Wetlands, Dismal River Headwaters, Lower Niobrara River, Middle Niobrara, Oglala Grasslands, Panhandle Prairies, Platte Confluence, Sandhills Alkaline Lakes, Upper Loup River and Tributaries, Upper Niobrara River, Wildcat Hills		

<u>Common Name</u>	McCown's Longspur	<u>Scientific Name</u>	<i>Rhynchophanes mccownii</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S3
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	Declining, PIF watch list		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Panhandle - primarily Sioux, Scotts Bluff, Banner and Kimball counties		
<u>Habitat</u>	Short-grass with mixed-grass, short stature vegetation, and prairie dog colonies		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Threats</u>	Habitat fragmentation and conversion; management that maintains higher vegetation structure; prairie dog control		
<u>Research/Inventory</u>	Identify habitat requirements; continue surveys; and evaluate use of Ag fields		
<u>Landscapes</u>	Kimball Grasslands, Ogallala Grasslands, Panhandle Prairies		

<u>Common Name</u>	Mountain Plover	<u>Scientific Name</u>	<i>Charadrius montanus</i>
<u>G-Rank</u>	G3	<u>S-Rank</u>	S2
		<u>Goal</u>	10
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State listed, G2		
<u>Trends since 2005 in NE</u>	Increasing		
<u>Range in NE</u>	Kimball, Banner and Cheyenne, possibly Sioux counties		
<u>Habitat</u>	Shortgrass, Ag fields; prairie dog towns; very low stature vegetation; flat, rocky areas		
<u>Threats</u>	Agriculture practices; predation on range sites; grazing management that maintains higher vegetation structure; habitat conversion and fragmentation; fire suppression		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Native grassland surveys; determine productivity on field vs. native prairie; spatial requirements for prairie near fallow habitats for brood rearing and migration; and effects of agriculture practices on foraging; effect of fire and of ag practices (e.g. chemical spraying); chick survival		
<u>Landscapes</u>	Kimball Grasslands, Panhandle Prairies		

<u>Common Name</u>	Pinyon Jay	<u>Scientific Name</u>	<i>Gymnorhinus cyanocephalus</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S3
		<u>Goal</u>	
		<u>Distribution</u>	
<u>Criteria for selection as Tier I</u>			
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Pine Ridge and Wildcat Hills		
<u>Habitat</u>	Open ponderosa pine woodlands		
<u>Threats</u>	Loss and degradation of open ponderosa pine forests		
	Climate Change Vulnerability Index: Not Vulnerable, Increase likely		
<u>Research/Inventory</u>	Refine breeding status - identify important breeding sites, determine relationship between forest management and species response		
<u>Landscapes</u>	Pine Ridge, Wildcat Hills		

Common Name Piping Plover**Scientific Name** *Charadrius melodus***G-Rank** G3**S-Rank** S2**Goal** 10**Distribution** Limited**Criteria for selection as Tier I** State and federally listed, G3**Trends since 2005 in NE** Unknown**Range in NE** Platte River east of Lake McConaughy, lower reaches of major rivers north of Platte River**Habitat** Bare sand bars and sandy shorelines of large rivers, lakes and sand pits**Threats** Loss of natural river flows to maintain bare sandbar and shoreline habitat; flooding of nests (hydro-peaking); loss of nests to vehicles and human disturbance; invasive plant species affecting nesting habitat, over-wintering habitat along the gulf

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Nesting surveys throughout breeding range in state, evaluate meta-population issues**Landscapes** Calamus River, Central Platte, Lower Loup River, Lower Loup River Core, Lower Platte River, Lower Niobrara River, Middle Loup River, Missouri River, Niobrara River, Verdigris-Bazile, Ponca Bluffs**Common Name** Short-eared Owl**Scientific Name** *Asio flammeus***G-Rank** G5**S-Rank** S2**Goal** 4**Distribution** Widespread**Criteria for selection as Tier I** Declining; PIF watch list**Trends since 2005 in NE** Unknown**Range in NE** Scattered statewide**Habitat** Open grasslands with standing cover and little disturbance**Threats** Habitat loss and fragmentation; disturbance of nesting habitat; barbed wire fences present collision danger

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Surveys to identify location and extent of breeding activity; determine specific nesting habitat requirements**Landscapes** Central Loess Hills, Cherry County Wetlands, Sandhills Alkaline Lakes, Sandsage Prairie

Common Name Sprague's Pipit**Scientific Name** *Anthus spragueii***G-Rank** G**S-Rank** S**Goal****Distribution****Criteria for selection as Tier I****Trends since 2005 in NE** Unknown**Range in NE** Statewide migrant, but rare in west and extreme east. More common in east-central and central part of state**Habitat** Short to tall-grass prairies, grazed to 5-15 cm, pastures, harvested fields (alfalfa or wheat stubble)**Threats** Undetermined, loss of breeding habitat, but unclear if there are threats during migration

Climate Change Vulnerability Index: Not Vulnerable, Increase likely

Research/Inventory Refine migration status, distribution, and habitat use; identify important stopover sites and habitats and evaluate possible threats**Landscapes** Rainwater Basin**Common Name** Trumpeter Swan**Scientific Name** *Cygnus buccinator***G-Rank** G4**S-Rank** S2**Goal** 4**Distribution** Limited**Criteria for selection as Tier I** Ranked as imperiled or vulnerable in all states in its range**Trends since 2005 in NE** Increasing**Range in NE** Primarily Cherry, Sheridan and Garden counties**Habitat** Deep water wetlands and marsh lakes with dense, emergent vegetation; spring fed streams**Threats** Wetland drainage/loss, disturbance, pollution, wind energy development

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Continue inventory**Landscapes** Central Loess Hills, Cherry County Wetlands, Dismal River Headwaters, Elkhorn River Headwaters, North Platte River, Sandhills Alkaline Lakes, Upper Loup Rivers and Tributaries, Upper Niobrara River

<u>Common Name</u>	Whooping Crane	<u>Scientific Name</u>	<i>Grus americana</i>
<u>G-Rank</u>	G1	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State and federally listed, G1		
<u>Trends since 2005 in NE</u>	Slowly Increasing		
<u>Range in NE</u>	Platte River from Scottsbluff to Chapman; wetlands and major rivers in central flyway		
<u>Habitat</u>	Wetlands, wet meadows, sandbars and shallow water in rivers		
<u>Threats</u>	Loss of natural river flows to maintain wet meadows, bare sandbar and shallow water habitat; loss of wetland habitat; wind energy development; tree encroachment in wet meadows		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Continue migration surveys; increased surveys of Sandhill wetlands, Southwest Playa, and Middle Loup River head, more fragmentation surveys in Custer County		
<u>Landscapes</u>	Central Loess Hills, Central Platte River, Cherry County Wetlands, Elkhorn River Headwaters, Lower Loup River, Lower Niobrara River, Middle Niobrara, North Platte River, Oglala Grasslands, Panhandle Prairies, Platte Confluence, Rainwater Basin, Upper Loup River and Tributaries, Verdigris-Bazile		

<u>Common Name</u>	Wood Thrush	<u>Scientific Name</u>	<i>Hylocichla mustelina</i>
<u>G-Rank</u>	G	<u>S-Rank</u>	S
		<u>Goal</u>	
		<u>Distribution</u>	
<u>Criteria for selection as Tier I</u>			
<u>Trends since 2005 in NE</u>			
<u>Range in NE</u>	Along major river valleys in eastern Nebraska		
<u>Habitat</u>	Mature eastern deciduous forests; needs shrubby understory component		
<u>Threats</u>	Reduction/ degradation of habitat; forest fragmentation - area sensitive species; fragmentation that increases cowbird parasitism deer over-browsing of forest/woodland understory; invasive species (garlic mustard)		
	Climate Change Vulnerability Index: Not Vulnerable, Increase likely		
<u>Research/Inventory</u>	Determine impact of deer, invasive species, forest fragmentation, and cowbird parasitism		
<u>Landscapes</u>	Indian Cave Bluffs, Lower and Middle Niobrara River, Lower Platte River, Ponca Bluffs, Thurston-Dakota Bluffs, Rulo Bluffs, Southeast Prairies, Verdigris-Bazile		

FISH

<u>Common Name</u>	Blacknose Shiner	<u>Scientific Name</u>	<i>Notropis heterolepis</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Disjunct
<u>Criteria for selection as Tier I</u>	State listed, disjunct		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	North-central portion of state		
<u>Habitat</u>	Headwater streams, spring fed, clear water, pools, quiet waters		
<u>Threats</u>	De-watering; siltation; dams; channelization; exotic species; culverts; water control structures; introduced predator fish		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Determine age structure, recruitment, population dynamics, seasonal movement, habitat use		
<u>Landscapes</u>	Cherry County Wetlands, Keya Paha, North Loup River, Upper Niobrara River		

<u>Common Name</u>	Blue Sucker	<u>Scientific Name</u>	<i>Cycleptus elongatus</i>
<u>G-Rank</u>	G3G4	<u>S-Rank</u>	S1
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	G3		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Lower Platte and Missouri River - Boyd through Richardson Counties		
<u>Habitat</u>	Large turbid rivers		
<u>Threats</u>	Channelization; alteration of flow; lack of sedimentation in some areas of Missouri River; interruption of movement, water quality		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Determine specific habitat requirements, population dynamics, and seasonal movement; compile information from research range-wide		
<u>Landscapes</u>	Lower Platte River, Missouri River		

<u>Common Name</u>	Finescale Dace	<u>Scientific Name</u>	<i>Phoxinus neogaeus</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S2
		<u>Goal</u>	10
		<u>Distribution</u>	Disjunct
<u>Criteria for selection as Tier I</u>	State listed, disjunct		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Sandhills of central portion of state		
<u>Habitat</u>	Headwater streams, spring fed, clear water, sandhill streams, beaver ponds, undercut banks, meandering streams, small pools		
<u>Threats</u>	Channel modification, de-watering, exotics, culverts, water control structures, introduced predator fish		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Determine age structure, recruitment, population dynamics, seasonal movements, and habitat use; genetic work; basic biology most important		
<u>Landscapes</u>	Cherry County Wetlands, Dismal River Headwaters, Keya Paha, North Loup River, Panhandle Prairies, Platte Confluence, Snake River, Upper Niobrara River		

<u>Common Name</u>	Lake Sturgeon	<u>Scientific Name</u>	<i>Acipenser fulvescens</i>
<u>G-Rank</u>	G3G4	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Peripheral
<u>Criteria for selection as Tier I</u>	State listed, G3		
<u>Trends since 2005 in NE</u>	Slightly increasing		
<u>Range in NE</u>	Lower Platte and Missouri River - Boyd through Richardson Counties		
<u>Habitat</u>	Shallow water; gravel/rocky substrate – for spawning; large rivers; lakes in other states		
<u>Threats</u>	Pollution; lack of spawning habitat; fragmentation of habitat (dams); interruption of movement; decreasing water levels in Platte River; channelization of Missouri River; illegal commercial fishing		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Increase surveys; determine specific spawning habitat, population dynamics, and genetic studies		
<u>Landscapes</u>	Lower Loup River, Lower Platte River, Missouri River		

<u>Common Name</u>	Northern Redbelly Dace	<u>Scientific Name</u>	<i>Phoxinus eos</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S2
<u>Goal</u>	10	<u>Distribution</u>	Disjunct
<u>Criteria for selection as Tier I</u>	State listed, disjunct		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Sandhills of central portion of state		
<u>Habitat</u>	Headwater streams, spring fed, clear water, sandhill streams, beaver ponds, undercut banks, meandering streams, small pools		
<u>Threats</u>	Channel modification; de-watering; exotics; culverts; water control structures; introduced predator fish		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Determine age structure, recruitment, population dynamics, seasonal movement, and specific habitat use; genetic work relative to northern populations in Minnesota		
<u>Landscapes</u>	Cherry County Wetlands, Keya Paha, Middle Niobrara , Panhandle Prairies, Platte Confluence, Snake River, Upper Loup Rivers and Tributaries, Upper Niobrara River		

<u>Common Name</u>	Pallid Sturgeon	<u>Scientific Name</u>	<i>Scaphirhynchus albus</i>
<u>G-Rank</u>	G2	<u>S-Rank</u>	S1
<u>Goal</u>	10	<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State and federally listed, G1		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Lower Platte and Missouri River - Boyd through Richardson Counties		
<u>Habitat</u>	Large turbid rivers, steep drop-offs at the edge of sandbars, sandy areas, downstream end of islands		
<u>Threats</u>	Manipulation of water flow, sediment transport, channelization, lack of low flow habitat, fragmentation, loss of spawning habitat, illegal commercial harvest, current manipulation of hydrograph		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Determine specific spawning habitat requirements, population dynamics, seasonal movement		
<u>Landscapes</u>	Lower Platte River, Lower Niobrara River, Missouri River, Verdigris-Bazile, Ponca Bluffs		

Common Name Plains Topminnow**Scientific Name** *Fundulus sciaticus***G-Rank** G4**S-Rank** S4**Goal** 10**Distribution** Endemic**Criteria for selection as Tier I** Endemic, declining**Trends since 2005 in NE** Declining**Range in NE** Northwest two-thirds of state**Habitat** Vegetative backwaters and headwaters, shallow parts of rivers and streams

Threats Predation, competition from Gambusia, exotics, de-watering, habitat loss

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Distribution surveys; identify secure occurrence locations; determine competition dynamic with Gambusia; genetic work

Landscapes Central Platte, Cherry County Wetlands, Dismal River Headwaters, Elkhorn River Headwaters, Keya Paha, Kimball Grasslands, Lower Loup River, Lower Platte River, Middle Niobrara, North Platte River, Panhandle Prairies, Platte Confluence, Sandsage Prairie, Snake River, Upper Loup Rivers and Tributaries, Upper Niobrara River, Verdigris-Bazile, Wildcat Hills, Willow Creek

Common Name Sicklefin Chub**Scientific Name** *Macrhybopsis meeki***G-Rank** G3**S-Rank** S1**Goal** 7**Distribution** Limited**Criteria for selection as Tier I** G3**Trends since 2005 in NE** Unknown**Range in NE** Missouri River - Boyd through Richardson Counties**Habitat** Large turbid rivers - Missouri River**Threats** Reduction of turbidity, channelization, and modified water flows

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Determine specific habitat requirements, population dynamics, seasonal Movement, sensitivity to turbidity

Landscapes Missouri River

<u>Common Name</u>	Sturgeon Chub	<u>Scientific Name</u>	<i>Macrhybopsis gelida</i>
<u>G-Rank</u>	G3	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State listed, G3		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Lower Platte and Missouri River - Boyd through Richardson Counties		
<u>Habitat</u>	Large turbid rivers with gravel		
<u>Threats</u>	Reduction of turbidity, channelization, modified water flows, loss of spawning habitat, de-watering, sediment transport, siltation		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Determine specific habitat requirements, population dynamics, seasonal Movement, basic biology		
<u>Landscapes</u>	Lower Platter River, Missouri River		

<u>Common Name</u>	Topeka Shiner	<u>Scientific Name</u>	<i>Notropis topeka</i>
<u>G-Rank</u>	G3	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State and federally listed, G3		
<u>Trends since 2005 in NE</u>	Declining		
<u>Range in NE</u>	Very localized: Cherry and Madison Counties		
<u>Habitat</u>	Cold/cool clear water streams with gravel, low gradient		
<u>Threats</u>	Sedimentation, exotics, channelization, stocking of sport fish, row crop agriculture, flow modification, de-watering, dams		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Determine age structure, recruitment, population dynamics, seasonal Movements, potential reintroduction study		
<u>Landscapes</u>	Cherry County Wetlands, North Loup River		

INSECTS

<u>Common Name</u>	American Burying Beetle	<u>Scientific Name</u>	<i>Nicrophorus americanus</i>
<u>G-Rank</u>	G2G3	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State and federally listed, G2		
<u>Trends since 2005 in NE</u>	Fluctuating with drought		
<u>Range in NE</u>	North-central and southwest-central portion of the state		
<u>Habitat</u>	Wet meadows in sandhills, open woodlands, loess prairie		
<u>Threats</u>	Woody encroachment, drought, land development, light pollution		
	Climate Change Vulnerability Index: Highly Vulnerable		
<u>Research/Inventory</u>	Determine specific habitat use; effects of land management practices; population sizes; long-term monitoring of individual populations		
<u>Landscapes</u>	Cherry County Wetlands, Dismal River, Elkhorn River Headwaters, Keya Paha, Loess Canyons, Middle Niobrara, Upper Loup Rivers and tributaries, Upper Niobrara River, Verdigris-Brazile		

<u>Common Name</u>	Bucholz Black Dash	<u>Scientific Name</u>	<i>Euphyes conspicua bucholzi</i>
<u>G-Rank</u>	G4T1	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Endemic
<u>Criteria for selection as Tier I</u>	G1, endemic		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	North-eastern portion of state		
<u>Habitat</u>	Wet Meadow and spring-fed marsh - larvae feed on wide leaf sedge; adults in boggy areas		
<u>Threats</u>	Habitat conversion and fragmentation, exotics, drying up of "wet" areas, housing development		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Inventory surveys; determine population size and dynamics and best management practices		
<u>Landscapes</u>	Elkhorn Confluence and River Headwaters		

Common Name Colorado Rita Dotted-Blue **Scientific Name** *Euphilotes rita coloradensis*

G-Rank G3G4T2T3 **S-Rank** S1 **Goal** 1 **Distribution** Peripheral

Criteria for selection as Tier I G3

Trends since 2005 in NE Stable

Range in NE Southwest portion of the panhandle

Habitat Sparse grasslands with rocky, gravelly soils of ridges, outcrops and bluffs. Specific to two species of wild buckwheat (*Eriogonum*).

Threats Over-grazing, herbicide use, limited by host plant occurrence

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Needs inventory to determine distribution and population size and dynamics

Landscapes Kimball Grasslands

Common Name Ghost Tiger Beetle **Scientific Name** *Cicindela lepida*

G-Rank G3G4 **S-Rank** S2 **Goal** 4 **Distribution** Widespread

Criteria for selection as Tier I G3

Trends since 2005 in NE Declining

Range in NE Statewide in localized populations

Habitat Sparsely-vegetated areas with open, sandy soils

Threats Habitat succession, trampling, lights, off-road vehicle traffic

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Species and habitat-type specific surveys to determine distribution and population numbers and status

Landscapes Cherry County Wetlands, Dismal River Headwaters, Middle Loup River, Platte Confluence

Common Name Iowa Skipper**Scientific Name** *Atrytone arogos iowa***G-Rank** G3G4**S-Rank** S1**Goal** 7**Distribution**

Limited

Criteria for selection as Tier I G3**Trends since 2005 in NE** Declining**Range in NE** Eastern half of state**Habitat** Tall-grass prairie, mixed-grass prairie along the Niobrara - bluestems likely host plant; requires native prairie with standing grass stems**Threats** Management practices that remove all standing grass stems, vegetative litter and nectar sources; burning of entire grassland site can be detrimental; habitat fragmentation

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory survey, determine best management practices**Landscapes** Keya Paha, Lower Niobrara River, Middle Niobrara, Platte Confluence, Sandstone Prairie, Verdigris-Brazile**Common Name** Married Underwing**Scientific Name** *Catocala nuptialis***G-Rank** G3G4**S-Rank** S2**Goal** 4**Distribution**

Widespread

Criteria for selection as Tier I G3**Trends since 2005 in NE** Declining to stable**Range in NE** Primarily eastern half of the state**Habitat** Tall-grass and mixed-grass prairie; larvae feeds on Lead plant (*Amorpha*)**Threats** Habitat loss and fragmentation to prairie; management practices that remove all standing vegetation and are applied to an entire tract (high-intensity grazing, haying, prescribed burning)

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory surveys, research management practices that are less destructive**Landscapes** Platte Confluence, Central Platte, Lower Platte

Common Name Mottled Duskywing **Scientific Name** *Erynnis martialis*

G-Rank G3 **S-Rank** S2 **Goal** 4 **Distribution** Widespread

Criteria for selection as Tier I G3

Trends since 2005 in NE Declining

Range in NE Scattered across state; Pine Ridge and Niobrara River Valley; Halsey National Forest, Missouri River Bluffs

Habitat Hilly areas with prairie openings, host plant is New Jersey Tea (*Leaenothus*)

Threats Loss of habitat and host plant, grazing from over-abundant deer herds

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory surveys to determine population locations and size

Landscapes Pine Ridge, Middle Niobrara, Missouri River

Common Name Nine-spotted Ladybird Beetle **Scientific Name** *Coccinella novemnotata*

G-Rank **S-Rank** S1 **Goal** 4 **Distribution** Widespread

Criteria for selection as Tier I Severe decline throughout its historic range of the eastern half of North America

Trends since 2005 in NE Severe decline

Range in NE Historically statewide, currently only in the panhandle of Nebraska

Habitat Predator on aphids found in variety of habitats

Threats Predation by introduced parasitic wasp, insecticides

Climate Change Vulnerability Index: Not Vulnerable, Increase likely

Research/Inventory Inventory and survey for more accurately determined distribution and population numbers

Landscapes Panhandle Prairies

Common Name Ottoe Skipper**Scientific Name** *Hesperia ottoe***G-Rank** G3G4**S-Rank** S3**Goal** 7**Distribution**

Limited

Criteria for selection as Tier I G3**Trends since 2005 in NE** Declining**Range in NE** Eastern half of state**Habitat** Tall-grass prairie, rolling/hilly prairie, mixed-grass prairie - feed on bluestems**Threats** Loss of native grasslands; management practices that remove all standing grass stems, vegetative litter, and nectar sources; burning of entire grassland site can be detrimental; exotics; habitat fragmentation

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory survey; determine best management practices**Landscapes** Lower Loup River, Niobrara River, Sandstone Prairies**Common Name** Platte River Caddisfly**Scientific Name** *Isonychia plattensis***G-Rank** G?**S-Rank** S1**Goal** 10**Distribution**

Endemic

Criteria for selection as Tier I G1, endemic**Trends since 2005 in NE** Declining**Range in NE** Central Platte River: Kearney, Hall, and Merrick Counties**Habitat** Sloughs, backwaters, wet meadows**Threats** Loss of natural river flows to maintain sloughs, backwater, and wet meadow habitat; use of insecticides; habitat conversion; exotics (e.g. mosquito fish)

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Inventory surveys; determine population dynamics and specific habitat requirements; genetic analysis**Landscapes** Central Platte

Common Name Regal Fritillary **Scientific Name** *Speyeria idalia*

G-Rank G3 **S-Rank** S3 **Goal** 4 **Distribution** Widespread

Criteria for selection as Tier I G3

Trends since 2005 in NE Stable

Range in NE Statewide, primarily in the eastern half of the state

Habitat Tall-grass and mixed-grass prairie with violets, wet meadows

Threats Habitat loss and fragmentation; exotics; drought; overgrazing or herbicide use that eliminates violets; burning of entire prairie remnant

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory surveys; monitor population trends

Landscapes All BULs

Common Name Salt Creek Tiger Beetle **Scientific Name** *Cicindela nevadica lincolniana*

G-Rank G5T3 **S-Rank** S1 **Goal** 10 **Distribution** Endemic

Criteria for selection as Tier I State listed, federal candidate, endemic

Trends since 2005 in NE Declining

Range in NE Lancaster County

Habitat Eastern Nebraska saline wetlands and their associated streams

Threats Habitat loss and degradation; urban development; impacts to natural hydrology - wetland drainage due to stream channelization and head-cutting; light pollution; over-grazing

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Identify specific reproductive habitat parameters; determine best habitat restoration methods; develop captive rearing techniques

Landscapes Saline Wetlands

<u>Common Name</u>	Tawny Crescent	<u>Scientific Name</u>	<i>Phyciodes batesii</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Declining, ranked as possibly extirpated, imperiled or vulnerable in most states in its range		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Pine Ridge- Sioux county		
<u>Habitat</u>	Canyon type habitat - close to water, between stream and dry, pine wooded areas with grassland openings		
<u>Threats</u>	Limited by host plant availability - <i>Aster laevis</i> , over- grazing		
	Climate Change Vulnerability Index: Moderately Vulnerable		
<u>Research/Inventory</u>	Inventory surveys; determine life-cycle and specific habitat requirements		
<u>Landscapes</u>	Pine Ridge		

<u>Common Name</u>	Whitney Underwing	<u>Scientific Name</u>	<i>Catocala whitneyi</i>
<u>G-Rank</u>	G3G4	<u>S-Rank</u>	S1
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	G3		
<u>Trends since 2005 in NE</u>	Declining to stable		
<u>Range in NE</u>	Primarily Eastern half of the state		
<u>Habitat</u>	Tall-grass and mixed-grass prairie. Larvae feeds on Lead plant (<i>Amorpha</i>)		
<u>Threats</u>	Habitat loss and fragmentation to prairie; management practices that remove all standing vegetation and are applied to an entire tract (high-intensity grazing, haying, prescribed burning)		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Inventory surveys, research management practices that are less destructive		
<u>Landscapes</u>	Platte Confluence, Central Platte, Lower Platte		

MAMMALS

Common Name Bailey's Eastern Wood Rat **Scientific Name** *Neotoma floridana baileyi*

G-Rank G5T3 **S-Rank** S2 **Goal** **Distribution**

Criteria for selection as Tier I Endemic

Trends since 2005 in NE Increasing

Range in NE North Central Nebraska

Habitat Pines and bluffs; woodlands and rocks

Threats Humans destroying habitat; poisoning; fire

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory and monitoring

Landscapes Cherry County Wetlands, Keya Playas?, Middle Niobrara, Snake River

Common Name Cheyenne Northern Pocket Gopher **Scientific Name** *Thomomys talpoides cheyennensis*

G-Rank G5T3T4 **S-Rank** S? **Goal** **Distribution**

Criteria for selection as Tier I Regional endemic

Trends since 2005 in NE Decreasing

Range in NE Kimball, Cheyenne and Banner Counties

Habitat Hard rocky; short-grass prairies

Threats Land conversion; geomys intrusion

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Inventory

Landscapes Kimball Grasslands

Common Name Fringe-Tailed Myotis **Scientific Name** *Myotis thysanodes pahasapensis*

G-Rank G4G5T2 **S-Rank** S1 **Goal** 7 **Distribution** Limited

Criteria for selection as Tier I G2

Trends since 2005 in NE Unknown

Range in NE Pine forests in panhandle and Wildcat Hills

Habitat Ponderosa Pine Forest and Woodland; Green Ash-Elm Bottom Woodland; cliffs and buttes

Threats Unknown

Climate Change Vulnerability Index: Moderately Vulnerable

Research/Inventory Inventory surveys; identify maternal roost habitat requirements and winter hibernacula; radio-tracking of movement patterns

Landscapes Pine Ridge, Wildcat Hills

Common Name Northern River Otter **Scientific Name** *Lontra canadensis*

G-Rank G5 **S-Rank** S2 **Goal** 10 **Distribution** Widespread

Criteria for selection as Tier I State listed

Trends since 2005 in NE Increasing

Range in NE Statewide

Habitat Along rivers and streams with sloughs and backwater areas, marshes; will frequent lakes and ponds

Threats Accidental trapping; habitat loss; pesticides and pollution; roads/ vehicles

Climate Change Vulnerability Index: Not Vulnerable, Increase likely

Research/Inventory Inventory and monitoring surveys of Republican River population

Landscapes Central Loess Hills, Central Platte River, Elkhorn River Headwaters, Loess Canyons, Lower Loup River, Lower Niobrara River, Lower Platte River, Middle Niobrara, Missouri River, North Platte River, Platte Confluence, Upper Loup River and Tributaries, Upper Niobrara River

Common Name Pierre Northern Pocket Gopher **Scientific Name** *Thomomys talpoides pierreicolus*

G-Rank G? **S-Rank** S? **Goal** **Distribution**

Criteria for selection as Tier I Regional endemic

Trends since 2005 in NE Unknown

Range in NE Northern Dawes and Sioux Counties

Habitat Short-grass; hard soils

Threats Control

Climate Change Vulnerability Index: Highly Vulnerable

Research/Inventory Inventory

Landscapes Oglala grasslands, Pine Ridge

Common Name Plains Harvest Mouse **Scientific Name** *Reithrodontomys montanus griseus*

G-Rank G5TNR **S-Rank** S1 **Goal** 7 **Distribution** Limited

Criteria for selection as Tier I Regional endemic; declining?

Trends since 2005 in NE Unknown

Range in NE Eastern portion of state

Habitat Tall-grass prairie - heavily grazed; open prairies; salt marshes

Threats Loss of tall-grass prairie habitat; lack of heavy grazing/management issues

Climate Change Vulnerability Index: Not Vulnerable, Increase likely

Research/Inventory Inventory surveys; determine specific habitat requirements; saline wetlands

Landscapes Elkhorn Confluence, Sandstone Prairies, Southeast Prairies, Saline Wetlands, Willow Creek Prairies

Common Name Plains Pocket Mouse **Scientific Name** *Perognathus flavescens perniger*

G-Rank G5TNR **S-Rank** SU? **Goal** 7 **Distribution** Limited

Criteria for selection as Tier I Regional endemic, declining?

Trends since 2005 in NE Declining?

Range in NE Eastern Nebraska

Habitat Sandy-loose soil prairies, Loess Bluff Prairie, Loess Mixed-grass Prairie, Northern Sand/Gravel Prairie

Threats Loss of open prairie habitat because of lack of grazing and fire

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory surveys; determine specific habitat requirements; genetic studies

Landscapes Elkhorn Confluence, Lower Loup River, Verdigris-Brazile, Willow Creek Prairies

Common Name Rocky Mountain Bighorn Sheep **Scientific Name** *Ovis canadensis canadensis*

G-Rank G4T4 **S-Rank** S1 **Goal** 1 **Distribution** Disjunct

Criteria for selection as Tier I Disjunct

Trends since 2005 in NE Slight increase, reintroduction in 2005 and 2007

Range in NE Buttes in Scottsbluff and Sioux Counties

Habitat Rocky buttes of Pine Ridge and Wildcat Hills

Threats Parasites; hoof deformations; potential disease

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Monitor for parasites and disease; determine source of hoof deformities

Landscapes Pine Ridge, Wildcat Hills

Common Name Southern Flying Squirrel **Scientific Name** *Glaucomys volans*

G-Rank G5 **S-Rank** S1 **Goal** 5 **Distribution** Peripheral

Criteria for selection as Tier I State listed

Trends since 2005 in NE Declining

Range in NE Missouri River bluffs - Washington to Richardson Counties

Habitat Red Oak-Basswood-Ironwood Forest

Threats Loss of mature forest with old-growth trees with cavities for nesting
Climate Change Vulnerability Index: Highly Vulnerable

Research/Inventory Inventory and monitoring surveys

Landscapes Missouri River, Indian Cave Bluffs, Rulo Bluffs

Common Name Swift Fox **Scientific Name** *Vulpes velox*

G-Rank G3 **S-Rank** S2 **Goal** 10 **Distribution** Limited

Criteria for selection as Tier I State listed, G3

Trends since 2005 in NE Stable

Range in NE Panhandle and Southwest Nebraska

Habitat Short-grass Prairie, Western Mixed-grass Prairie

Threats Predator control; conversion to cropland; fragmentation of habitat; loss of prairie dog colonies
Climate Change Vulnerability Index: Not Vulnerable, Increase Likely

Research/Inventory Inventory and monitoring surveys

Landscapes Kimball Grasslands, Oglala Grasslands, Panhandle Prairies, Pine Ridge, Upper Niobrara River, Wildcat Hills

MOLLUSKS

<u>Common Name</u>	Flat Floater	<u>Scientific Name</u>	<i>Anodonta suborbiculata</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S1
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Declining; ranked as imperiled or vulnerable in nearly all states in its range		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Missouri River - Boyd through Richardson Counties		
<u>Habitat</u>	Quiet water of sloughs, oxbows, and backwaters of Missouri River		
<u>Threats</u>	Drainage, filling and siltation of sloughs, oxbows, and backwaters, stream channelization, degradation of water quality		
	Climate Change Vulnerability Index: Highly Vulnerable		
<u>Research/Inventory</u>	Inventory surveys in river above Lewis and Clark Lake, determine specific habitat requirements		
<u>Landscapes</u>	Missouri River		

<u>Common Name</u>	Higgins Eye	<u>Scientific Name</u>	<i>Lampsilis higginsii</i>
<u>G-Rank</u>	G1G2	<u>S-Rank</u>	S1
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	G1		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Upper reaches of Missouri River		
<u>Habitat</u>	Large to medium rivers in mud and sand		
<u>Threats</u>	Stream channelization; siltation; degradation of water quality; agriculture and urban effluent		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Inventory surveys, determine specific habitat requirements		
<u>Landscapes</u>	Missouri River		

<u>Common Name</u>	Pimpleback	<u>Scientific Name</u>	<i>Quadrula pustulosa</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S2
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Declining		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Streams in eastern quarter of state		
<u>Habitat</u>	Large streams to medium rivers in mud, sand, or gravel		
<u>Threats</u>	Habitat fragmentation because of dams and other barriers to fish movement; stream channelization; siltation; degradation of water quality; agriculture and urban effluent		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Inventory surveys in the Big Blue River, determine specific habitat requirements		
<u>Landscapes</u>	Elkhorn Confluence, Southeast Prairies, Elkhorn River Headwaters, Lower Platte River, Saline wetlands, Sandstone Prairies, Rainwater Basin		

<u>Common Name</u>	Pistolgrip Mussel	<u>Scientific Name</u>	<i>Tritogonia verrucosa</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Declining		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Missouri River and streams in southeast portion of state		
<u>Habitat</u>	Large streams to medium rivers in mud, sand, or gravel		
<u>Threats</u>	Habitat fragmentation because of dams and other barriers to fish movement; stream channelization; siltation; degradation of water quality; agriculture and urban effluent		
	Climate Change Vulnerability Index: Highly Vulnerable		
<u>Research/Inventory</u>	Inventory surveys in the Big Blue River, determine specific habitat requirements		
<u>Landscapes</u>	Missouri River, Southeast Prairies		

<u>Common Name</u>	Plain Pocketbook	<u>Scientific Name</u>	<i>Lampsilis cardium</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S2
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Declining		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Streams in eastern third of state		
<u>Habitat</u>	Small creeks to medium rivers in mud, sand, or gravel		
<u>Threats</u>	Habitat fragmentation because of dams and other barriers to fish movement; stream channelization; siltation; degradation of water quality; agriculture and urban effluent; accidental agricultural chemical spill		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Inventory surveys, determine specific habitat requirements		
<u>Landscapes</u>	Elkhorn River Headwaters, Elkhorn Confluence, Southeast Prairies		

<u>Common Name</u>	Scaleshell	<u>Scientific Name</u>	<i>Leptodea leptodon</i>
<u>G-Rank</u>	G1G2	<u>S-Rank</u>	S1
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	State and federally listed, G1		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Upper reaches of Missouri River		
<u>Habitat</u>	Large rivers in mud and sand		
<u>Threats</u>	Stream channelization; degradation of water quality		
	Climate Change Vulnerability Index: Highly Vulnerable		
<u>Research/Inventory</u>	Inventory surveys, determine specific habitat requirements		
<u>Landscapes</u>	Missouri River		

REPTILES

Common Name Blanding's Turtle

Scientific Name *Emydoidea blandingii*

G-Rank G4

S-Rank S4

Goal 4

Distribution Limited

Criteria for selection as Tier I Ranked as imperiled or vulnerable in all but one state in its range

Trends since 2005 in NE

Range in NE Primarily sandhills marshes, very locally in eastern portion of state

Habitat Sandhills fens, proximity to water, Sandhills Freshwater Marsh, Northern Cordgrass Wet Prairie, small tributaries, Sandhills prairies (upland habitat), marshes and oxbows in eastern portion of state

Threats Vehicles/roads; habitat fragmentation and loss of wetlands in eastern part of range; collection for pet trade

Climate Change Vulnerability Index: Not Vulnerable, presumed stable

Research/Inventory Inventory along Eastern edge of range

Landscapes Cherry County Wetlands, Dismal River Headwaters, Elkhorn Confluence and River Headwaters, Lower Loup River, Lower Platte River, Middle Niobrara, Upper Loup River and Tributaries

Common Name Massasauga

Scientific Name *Sistrurus catenatus*

G-Rank G3G4

S-Rank S1

Goal 10

Distribution Widespread

Criteria for selection as Tier I State listed, G3

Trends since 2005 in NE

Range in NE Very southeast portion of state

Habitat Wet Mesic Tall-grass Prairie, wet meadow/marsh/wet prairie, lower-middle Tall-grass Prairie, Cordgrass Wet Prairie, crayfish burrows

Threats Loss/degradation of tall-grass prairie habitat; woody invasion; tilling for agriculture; road kill

Climate Change Vulnerability Index: Highly Vulnerable

Research/Inventory Determine size/extent of Colfax population, distributional investigation

Landscapes Lower Platte River, Sandstone Prairies, Southeast Prairies

<u>Common Name</u>	Sagebrush Lizard	<u>Scientific Name</u>	<i>Sceloporus graciosus</i>
<u>G-Rank</u>	G5	<u>S-Rank</u>	S1
		<u>Goal</u>	1
		<u>Distribution</u>	Peripheral
<u>Criteria for selection as Tier I</u>	Disjunct		
<u>Trend since 2005</u>	Unknown		
<u>Range in NE</u>	Central portion of the panhandle		
<u>Habitat</u>	Open, rocky, short-grass prairie, usually associated with sagebrush, higher elevations		
<u>Threats</u>	Grassland management that increases vegetative cover; elimination of sagebrush; habitat fragmentation		
<u>Research/Inventory</u>	Detailed, comprehensive inventory, determine specific habitat requirements, and conduct population monitoring		
<u>Landscapes</u>	Panhandle Prairies, Wildcat Hills		

<u>Common Name</u>	Timber Rattlesnake	<u>Scientific Name</u>	<i>Crotalus horridus</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	4
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	Declining: ranked as imperiled or vulnerable in nearly all states in its range		
<u>Trends since 2005 in NE</u>			
<u>Range in NE</u>	Very southeast portion of state		
<u>Habitat</u>	Deciduous woodland, riparian woodland - both in conjunction with rock outcrops		
<u>Threats</u>	Cedar encroachment; malicious killing; limestone quarrying		
	Climate Change Vulnerability Index: Not Vulnerable, presumed stable		
<u>Research/Inventory</u>	Inventory surveys, determine life history dynamics		
<u>Landscapes</u>	Missouri River, Sandstone Prairies, Southeast Prairies, Indian Cave Bluffs, Rulo Bluffs		

PLANTS

<u>Common Name</u>	American Ginseng	<u>Scientific Name</u>	<i>Panax quinquefolius</i>
<u>G-Rank</u>	G3G4	<u>S-Rank</u>	S1
		<u>Goal</u>	10
		<u>Distribution</u>	Peripheral
<u>Criteria for selection as Tier I</u>	State listed, G3		
<u>Trend since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Missouri River bluff woodlands		
<u>Habitat</u>	Oak-Hickory-Ironwood Forest, Bur Oak-Basswood-Ironwood Forest, Red Oak-Basswood-Ironwood Forest		
<u>Threats</u>	Over-collecting; grazing of woodlands; logging; housing development; invasive species; lack of woodland management; brush encroachment		
	Climate Change Vulnerability Index: Moderately Vulnerable		
<u>Research/Inventory</u>	Detail inventory and population monitoring- resurvey known sites		
<u>Landscapes</u>	Indian Cave Bluffs, Missouri River, Ponca Bluffs, Rulo Bluffs		

<u>Common Name</u>	Barr's Milkvetch	<u>Scientific Name</u>	<i>Astragalus barrii</i>
<u>G-Rank</u>	G3	<u>S-Rank</u>	S1
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	G3		
<u>Trend since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Dawes County		
<u>Habitat</u>	Badland, Rock Outcrop		
<u>Threats</u>	Off-road Vehicle use; erosion		
	Climate Change Vulnerability Index: Highly Vulnerable		
<u>Research/Inventory</u>	Detailed inventory and population monitoring		
<u>Landscapes</u>	Oglala Grasslands		

Common Name Blowout Penstemon **Scientific Name** *Penstemon haydenii*

G-Rank G1 **S-Rank** S1 **Goal** 10 **Distribution** Endemic

Criteria for selection as Tier I State and federally listed, G1

Trend since 2005 in NE Wild populations may be declining

Range in NE Sandhills Ecoregion

Habitat Sandhills Dune Prairie (blowouts)

Threats Loss of blowouts because of some range management practices and lack of fire
Climate Change Vulnerability Index: Highly Vulnerable

Research/Inventory How to maintain populations, establishment requirement

Landscapes Central Platte River, Cherry County Wetlands, Dismal River Headwaters, Elkhorn River Headwaters, North Loup River, Panhandle Prairies, Sandhills Alkali Lakes, Upper Niobrara River

Common Name Colorado Butterfly Plant **Scientific Name** *Gaura neomexicana coloradensis*

G-Rank G3T2 **S-Rank** S1 **Goal** 5 **Distribution** Limited

Criteria for selection as Tier I State and federally listed, G2

Trend since 2005 in NE Declining

Range in NE Kimball County

Habitat Western Floodplain Terrace Grassland

Threats Canada thistle invasion of habitat; herbicide spraying; groundwater level decline; haying and overgrazing of habitat
Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Population monitorin;, re-inventory in 2012 to evaluate effect of 2010 flooding; research on best management practices

Landscapes Kimball Grasslands

Common Name Dog-Parsley**Scientific Name** *Lomatium nuttallii***G-Rank** G3**S-Rank** S2**Goal** 7**Distribution** Limited**Criteria for selection as Tier I** G3**Trend since 2005 in NE** Stable**Range in NE** Sheridan, Scottsbluff and Morrill Counties**Habitat** Rock Outcrops**Threats** Unknown, few if any

Climate Change Vulnerability Index: Moderately Vulnerable

Research/Inventory Inventory of distribution**Landscapes** Wildcat Hills, Oglala Grasslands, Pine Ridge**Common Name** Gordon's Wild Buckwheat**Scientific Name** *Eriogonum gordonii***G-Rank** G4**S-Rank** S1**Goal** 7**Distribution** Limited**Criteria for selection as Tier I** Regional endemic; ranked imperiled or vulnerable in most states in its range**Trends since 2005 in NE** Unknown**Range in NE** Dawes and Sioux County**Habitat** Rocky prairies (most likely western mixed-grass prairie); weathered and eroded Pierre shale in grasslands**Threats** Unknown, possibly erosion

Climate Change Vulnerability Index: Moderately Vulnerable

Research/Inventory Inventory of distribution**Landscapes** Oglala Grasslands, Panhandle Prairies, Upper Niobrara River

<u>Common Name</u>	Hall's Bulrush	<u>Scientific Name</u>	<i>Schoenoplectus hallii</i>
<u>G-Rank</u>	G2G3	<u>S-Rank</u>	S3
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	G2		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Eastern Sandhills Ecoregion		
<u>Habitat</u>	Northern Sedge Wet Meadow, Northern Cordgrass Wet Prairie, Sandhills Freshwater Marsh, sand edge of wetlands		
<u>Threats</u>	Wetland drainage; invasive species; pumping for irrigation; soil compaction		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Research on best management practices		
<u>Landscapes</u>	Calamus River, Elkhorn River Headwaters, Upper Loup Rivers and Tributaries		

<u>Common Name</u>	Large-Spike Prairie-Clover	<u>Scientific Name</u>	<i>Dalea cylindriceps</i>
<u>G-Rank</u>	G3G4	<u>S-Rank</u>	S2
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	G3		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Shortgrass Prairie Ecoregion		
<u>Habitat</u>	Gravelly terrace prairies		
<u>Threats</u>	Invasive species		
	Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable		
<u>Research/Inventory</u>	Inventory of distribution		
<u>Landscapes</u>	Middle and Upper Niobrara Valley, Sandsage South, Panhandle Prairie, North Platte River		

Common Name Matted Prickly-phlox**Scientific Name** *Linanthus caespitosus***G-Rank** G4**S-Rank** S1**Goal** 7**Distribution** Limited**Criteria for selection as Tier I**

Regional endemic, ranked as imperiled or vulnerable in most states in its range

Trends since 2005 in NE

Unknown

Range in NE Scottsbluff County**Habitat** Rock Outcrop**Threats** Unknown - not many likely

Climate Change Vulnerability Index: Highly Vulnerable

Research/Inventory Inventory of distribution**Landscapes** Wildcat Hills, Kimball Grasslands**Common Name** Meadow Lousewort**Scientific Name** *Pedicularis crenulata***G-Rank** G4**S-Rank** S1**Goal** 7**Distribution** Limited**Criteria for selection as Tier I**

Regional endemic, ranked as imperiled or vulnerable in most states in its range

Trends since 2005 in NE

Unknown

Range in NE Sioux County**Habitat** Western Streamside Wet Meadow**Threats** Annual haying, overgrazing, exotic plant invasion, water depletion

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Inventory of distribution**Landscapes** Panhandle Prairies, Upper Niobrara River

<u>Common Name</u>	Missouri Sedge	<u>Scientific Name</u>	<i>Carex missouriensis</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	7
		<u>Distribution</u>	Limited
<u>Criteria for selection as Tier I</u>	Regional endemic, ranked as imperiled or vulnerable in most states in its range		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Johnson, Richardson, Saline, and Otoe Counties		
<u>Habitat</u>	Eastern Cordgrass Wet Prairie, Eastern Sedge Wet Meadow, Wet-mesic Tall-grass Prairies		
<u>Threats</u>	Conversion of prairie to cropland, herbicide spraying, invasive species, over-grazing, tree encroachment		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Inventory of distribution		
<u>Landscapes</u>	Southeast Prairies		

<u>Common Name</u>	Nodding-Pogonia	<u>Scientific Name</u>	<i>Triphora trianthophora</i> var. <i>trianthophora</i>
<u>G-Rank</u>	G3G4T3	<u>S-Rank</u>	S1
		<u>Goal</u>	
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	G3		
<u>Trend since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Southeast Nebraska, Missouri river bluffs		
<u>Habitat</u>	Red oak-basswood-ironwood forest, Oak-hickory-ironwood forest		
<u>Threats</u>	Grazing of woodlands, logging, housing development, invasive species, lack of woodland management, brush encroachment		
	Climate Change Vulnerability Index: Highly Vulnerable		
<u>Research/Inventory</u>	Detailed inventory and population monitoring		
<u>Landscapes</u>	Indian Cave Bluffs, Missouri River, Rulo Bluffs		

Common Name Platte River Dodder**Scientific Name** *Cuscuta plattensis***G-Rank** G1Q**S-Rank** SNR**Goal****Distribution**

Limited

Criteria for selection as Tier I G1**Trend since 2005** Unknown**Range in NE** Morrill County**Habitat** Floodplains, possibly grasslands and woodland edge**Threats** Invasive species; conversion of grasslands

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Detail inventory and population monitoring**Landscapes** North Platte River**Common Name** Prairie Moonwort**Scientific Name** *Botrychium campestre***G-Rank** G3G4**S-Rank** S1**Goal** 7**Distribution****Criteria for selection as Tier I** G3**Trends since 2005 in NE** Unknown**Range in NE** Brown County**Habitat** Bur Oak-Basswood-Ironwood Forest**Threats** Unknown

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory of distribution**Landscapes** Keya Paha, Lower Niobrara River, Middle Niobrara, Verdigris-Bazile

Common Name Rocky Mountain Bulrush **Scientific Name** *Schoenoplectus saximontanus*

G-Rank G5 **S-Rank** S1 **Goal** **Distribution** Widespread

Criteria for selection as Tier I Ranked imperiled or vulnerable in all states in its range

Trend since 2005 Unknown

Range in NE Northwest, historically known from Rainwater Basins, Perkins County, and northern Nebraska.

Habitat Ephemeral wetland shores, playas

Threats Siltation, wetland drainage, invasive species

Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Detail inventory and population monitoring

Landscapes Oglala Grasslands

Common Name Saltwort **Scientific Name** *Salicornia rubra*

G-Rank G5 **S-Rank** S1 **Goal** 10 **Distribution** Disjunct

Criteria for selection as Tier I State listed, disjunct

Trends since 2005 in NE Declining?

Range in NE Lancaster and southern Saunders counties

Habitat Eastern Saline Meadow

Threats Wetland drainage, development, reduced groundwater levels, loss of salinity in wetlands, invasive plants

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Research needed on how to restore and manage saline wetlands, controlling narrowleaf cattail and reed canary grass

Landscapes Central Platte, Saline Wetlands

Common Name Sandhill Goosefoot **Scientific Name** *Chenopodium cycloides*

G-Rank G3G4 **S-Rank** S1 **Goal** 7 **Distribution** Limited

Criteria for selection as Tier I G3, Disjunct

Trends since 2005 in NE Unknown

Range in NE Perkins, Chase and Dundy Counties

Habitat Sandsage Prairie

Threats Over-grazing, herbicide spraying, conversion of prairie to cropland
Climate Change Vulnerability Index: Not Vulnerable, Presumed Stable

Research/Inventory Inventory of distribution

Landscapes Sandsage South Prairie

Common Name Short's Milkvetch **Scientific Name** *Astragalus shortianus*

G-Rank G4 **S-Rank** S1 **Goal** 7 **Distribution** Limited

Criteria for selection as Tier I Regional endemic; ranked as imperiled or vulnerable in most states in its range

Trends since 2005 in NE Unknown

Range in NE Kimball and Banner Counties

Habitat Rocky and gravelly western mixed-grass prairie

Threats Unknown, wind development?

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Inventory of distribution

Landscapes Kimball Grasslands

<u>Common Name</u>	Small White Lady's-Slipper	<u>Scientific Name</u>	<i>Cypripedium candidum</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1S2
		<u>Goal</u>	10
		<u>Distribution</u>	Widespread
<u>Criteria for selection as Tier I</u>	State listed		
<u>Trends since 2005 in NE</u>	Stable		
<u>Range in NE</u>	Loup River valleys in the Mixedgrass Prairie Ecoregion and eastern Sandhills Ecoregion		
<u>Habitat</u>	Northern Sedge Wet Meadow, Northern Cordgrass Wet Prairie, Wet-mesic Tall-grass Prairie		
<u>Threats</u>	Conversion of meadows to cropland and development, invasive species, reduced groundwater levels, annual mid-summer haying, herbicide spraying		
	Climate Change Vulnerability Index: Moderately Vulnerable		
<u>Research/Inventory</u>	Research to determine best management practices, inventory of distribution		
<u>Landscapes</u>	Elkhorn River Headwaters, Lower Loup River Core, Lower Platte River, Middle Niobrara		

<u>Common Name</u>	Snow Trillium	<u>Scientific Name</u>	<i>Trillium nivale</i>
<u>G-Rank</u>	G4	<u>S-Rank</u>	S1
		<u>Goal</u>	1
		<u>Distribution</u>	Peripheral
<u>Criteria for selection as Tier I</u>	Ranked as imperiled or vulnerable in nearly all states in its range		
<u>Trends since 2005 in NE</u>	Unknown		
<u>Range in NE</u>	Cass County		
<u>Habitat</u>	Oak-Hickory-Ironwood Forest, Bur Oak-Basswood-Ironwood Forest, Red Oak-Basswood-Ironwood Forest		
<u>Threats</u>	Invasive species, logging, overgrazing		
	Climate Change Vulnerability Index: Extremely Vulnerable		
<u>Research/Inventory</u>	Re-inventory		
<u>Landscapes</u>			

Common Name Ute Lady's Tresses**Scientific Name** *Spiranthes diluvialis***G-Rank** G2G3**S-Rank** S1**Goal** 2**Distribution** Limited**Criteria for selection as Tier I** State and federally listed, G2**Trends since 2005 in NE** Declining**Range in NE** Sioux County**Habitat** Western Alkaline Meadow**Threats** Reduced groundwater levels, invasive species, conversion of meadows to cropland, annual haying of meadows

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Research to determine management needs**Landscapes** Panhandle Prairies, Upper Niobrara River**Common Name** Western Prairie Fringed Orchid **Scientific Name** *Platanthera praeclara***G-Rank** G2**S-Rank** S2**Goal** 10**Distribution** Limited**Criteria for selection as Tier I** State and federally listed, G2**Trends since 2005 in NE** Cyclic with weather; declined during dry years; may be increasing recently**Range in NE** Tallgrass Prairie and Sandhills Ecoregions**Habitat** Eastern Cordgrass Wet Prairie, Northern Cordgrass Wet Prairie, Wet-mesic Tallgrass Prairie, Tallgrass Prairie**Threats** Invasive species; herbicide spraying; conversion of prairie to cropland and development; annual mid-summer haying; too little grazing or over-grazing

Climate Change Vulnerability Index: Extremely Vulnerable

Research/Inventory Research on best management practices**Landscapes** Central Platte, Cherry County Wetlands, Elkhorn River Headwaters, Lower Platte River, North Loup River, Willow Creek Prairies

Common Name Wolf's Spikerush

Scientific Name *Eleocharis wolfii*

G-Rank G3?

S-Rank S2

Goal 7

Distribution Widespread

Criteria for selection as Tier I G3

Trends since 2005 in NE

Range in NE Sandhills Ecoregion

Habitat Northern Cordgrass Wet Prairie, Northern Sedge Wet Prairie

Threats Wetland drainage, invasive species

Climate Change Vulnerability Index:

Research/Inventory Inventory of distribution

Landscapes Cherry County Wetlands, Elkhorn River Headwaters, Upper Loup Rivers and Tributaries, Willow Creek Prairies